AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

Listing of Claims:

Claim 1 (Currently Amended): A method of active queue management, for handling prioritized traffic in a packet transmission system, the method comprising: ~~adapted to~~ ~~provided~~

providing differentiation between traffic originating from rate adaptive applications that respond to packet loss, ~~in which~~ wherein traffic is assigned to one[[,]] of at least two[[,]] drop precedent levels;~~, characterised by~~

preventing starvation of low prioritized traffic; ~~while, at the same time,~~

preserving a strict hierarchy among precedence levels;[[,]] and

providing absolute differentiation of traffic.

Claim 2 (Currently Amended): A method of active queue management for handling prioritized traffic in a packet transmission system, the method comprising: ~~adapted to~~ ~~provided~~

providing differentiation between traffic originating from rate adaptive applications that respond to packet loss, in which traffic is assigned to one[[,]] of a plurality of drop precedence levels, ~~characterised by~~

using a modified random early detection in and out RIO to calculate RIO drop probabilities,

using a load tolerant random early detection in and out ltRIO to calculate ltRIO drop probabilities,

~~combined with~~ using a weighted random early detection WRED to calculate WRED drop probabilities, ~~so that~~

creating a plurality of threshold levels[[,]] for an average queue length, ~~are created,~~ by applying ~~different~~ the RIO, ltRIO and WRED drop probabilities to the plurality of drop precedence levels, ~~each precedence level~~ and ~~by~~

setting all maximum threshold levels to a ~~the~~ same value.

Claim 3 (Currently Amended): The method as ~~A method, as~~ claimed in claim 1, further comprising: ~~characterised by~~

providing absolute differentiation if a prioritized ~~prioritised~~ traffic is fully controlled and relative differentiation if the prioritized traffic is not fully controlled ~~in other cases~~.

Claim 4 (Currently Amended): The method as ~~A method, as~~ claimed in claim 1, ~~characterised by~~ wherein there are at least two drop precedence levels, in-profile ~~in profile~~ and out-profile ~~out of profile~~, ~~by~~ said method further comprising:

reclassifying a packet, tagged as in-profile ~~in profile~~, as out-profile ~~out of profile~~, when a drop probability assigned to the packet is greater than a drop probability calculated from ~~the~~ an average queue length for in-profile ~~in profile~~ packets, and ~~by~~

discarding a packet, tagged as out-profile, ~~out of profile~~ when a drop probability assigned to the packet is greater than a drop probability calculated from ~~the~~ an average queue length for out-profile ~~out of profile~~ packets.

Claim 5 (Currently Amended): The method as ~~A method, as~~ claimed in claim 4, ~~characterised by~~ wherein:

a maximum threshold value for the average queue length for out-profile ~~out of profile~~ packets is[[,]] max_th_out, ~~and~~

a maximum threshold value for the average queue length for in-profile ~~in profile~~ packets is[[,]] max_th_in, and ~~by~~

max_th_out ~~being~~ is set to a greater value than max_th_in.

Claim 6 (Currently Amended): The method as ~~A method, as~~ claimed in claim 2, ~~characterised by~~ wherein,

a maximum threshold value for the average queue length for in-profile packets is max_th_in,

a minimum threshold value for the average queue length for in-profile packets is min_th_in, and

a maximum drop probability for packets marked as in-profile is max_p_in,

said method further comprising:

using a set of threshold parameters, including max_th_in, min_th_in, and max_p_in, instead of random early detection RED parameters, to determine whether an in-profile ~~in profile~~ packet should be tagged as out-profile ~~out of profile~~.

Claim 7 (Currently Amended): The method as ~~A method, as~~ claimed in claim 6, ~~characterised by~~ said method further comprising:

setting ~~said~~ a plurality of maximum threshold parameters ~~values,~~ max_th#, including max_th_in and max_th_out, to a ~~the~~ same value.

Claim 8 (Currently Amended): The method as ~~A method, as~~ claimed in claim 6, ~~characterised by~~ wherein there are three levels of drop precedence, said method further including: ~~and by~~

calculating an average queue length for each level of drop precedence based on packets tagged with ~~that~~ a corresponding level and packets tagged with a higher level of drop precedence.

Claim 9 (Currently Amended): The method as ~~A method, as~~ claimed in claim 8, ~~characterised by~~ further comprising:

assigning a unique threshold to each of the two highest prioritized precedence levels, said unique threshold ~~thresholds~~ being used to determine when a packet is to be tagged with a lower precedence level, and ~~by~~

providing a relative differentiation among said three levels when the average queue lengths for the two highest precedence levels exceeds both thresholds.

Claim 10 (Currently Amended): The method as ~~A method, as~~ claimed in claim 9, ~~characterised by~~ further comprising:

providing more than three drop precedence levels, and

employing an average queue length parameter for each drop precedence level with associated minimum threshold parameters ~~thresholds~~ min_th#s and maximum drop probability values max_p#s.

Claim 11 (Currently Amended): The method as ~~A method, as~~ claimed in claim 10, ~~characterised by~~ wherein there are eight drop precedence levels.

Claim 12 (Currently Amended): The method as ~~A method, as~~ claimed in claim 10, ~~characterised by~~ wherein there is a single minimum threshold[[,]] th_in, for all precedence levels such that no packets are dropped if the average queue length is less than th_in.

Claim 13 (Currently Amended): A method of active queue management for handling prioritized traffic in a packet transmission system, ~~adapted to provided~~ configured to provide differentiation between traffic originating from rate adaptive applications that respond to packet loss, ~~in which~~ wherein traffic is assigned one[[,]] of at least a first and second[[,]] drop precedent level, namely in-profile ~~in profile~~ and out-profile ~~out of profile~~, ~~characterised by~~ said method including of:

[[-]] calculating an average queue length[[,]] avg_ql;

[[-]] assigning minimum thresholds[[,]] min_th_in and min_th_out, for in-profile ~~in profile~~ packets and out-profile ~~out of profile~~ packets respectively, and a maximum threshold[[,]] max_th;

[[-]] retaining all packets with their initially assigned drop precedent levels while the avg_ql ~~average queue length~~ is less than, or equal to, a threshold th_in;

[[-]] assigning a drop probability to each packet, determined from the average queue length;

[[-]] retaining all packets while the avg_ql is less than the th_in; and

[[-]] dropping packets in accordance with their assigned drop probability; ~~and by~~ wherein

max_p_out is ~~being~~ greater than max_p_in, ~~where~~ max_p_out ~~is~~ being the maximum drop probability of packets marked as out-profile ~~out of profile~~ and max_p_in ~~is~~ being the maximum drop probability for packets marked as in-profile ~~in profile~~.

Claim 14 (Currently Amended): The method as ~~A method, as~~ claimed in claim 13, ~~characterised by~~ further comprising:

applying said method to a FIFO queue.

Claim 15 (Currently Amended): The method as ~~A method, as~~ claimed in claim 13, ~~characterised by~~ further comprising:

[[-]] dropping a packet if avg_ql ~~, when the packet arrives,~~ is > max_th, when a packet arrives;

[[-]] calculating an average queue length for a packet tagged as in-profile avg_ql_in ~~for a packet tagged as in profile, calculating avg_ql_in~~, and, if avg_ql_in > th_in and min_th_in < avg_ql, calculating a probability of dropping a packet tagged as in-profile Pin and dropping[[,]] or retaining[[,]] said in-profile packet in accordance with ~~the~~ a value of Pin;

[[-]] calculating a probability of dropping a packet tagged as out-profile Pout ~~for a packet marked as out of profile,~~ if min_th_out < avg_ql, ~~calculating Pout,~~ and dropping[[,]] or retaining[[,]] said out-profile packet in accordance with ~~the~~ a value of Pout.

Claim 16 (Currently Amended): The method as ~~A method, as~~ claimed in claim 13, ~~characterised by~~ further comprising:

employing a plurality of drop precedence levels, greater than two, and deriving an average queue length for each drop precedence level.

Claim 17 (Currently Amended): The method as ~~A method, as~~ claimed in claim 15, ~~characterised by~~ further comprising:

setting max_th for each drop precedence level to the same value.

Claim 18 (Currently Amended): The method as ~~A method, as~~ claimed in claim 16, ~~characterised by~~ wherein there are three levels of drop precedence, further comprising: ~~and by~~

calculating an average queue length for each level of drop precedence based on packets tagged with ~~that~~ the corresponding level and packets tagged with a higher level of drop precedence.

Claim 19 (Currently Amended): The method as ~~A method, as~~ claimed in claim 18, ~~characterised by~~ further comprising:

assigning a unique threshold to each of the two highest prioritized precedence levels, said unique thresholds being used to determine when a packet is to be tagged with a lower precedence level, and ~~by~~

providing a relative differentiation among said three levels when the average queue lengths for the two highest precedence levels exceeds both thresholds.

Claim 20 (Currently Amended): The method as ~~A method, as~~ claimed in claim 19, ~~characterised by~~ further comprising:

providing more than three drop precedence levels; and

employing an average queue length parameter for each drop precedence level with associated thresholds min_th#s and max_p#s.

Claim 21 (Currently Amended): The method as ~~A method, as~~ claimed in claim 20, ~~characterised by~~ wherein there are eight drop precedence levels.

Claim 22 (Currently Amended): The method as ~~A method, as~~ claimed in claim 20, ~~characterised by~~ wherein there is a single minimum threshold, th_in, for all precedence levels such that no packets are dropped if the average queue length is less than th_in.

Claim 23 (Currently Amended): A telecommunications system for transmission of packet data, wherein ~~characterised in that~~ said telecommunications system employs a method of active queue management as claimed in claim 1.

Claim 24 (Currently Amended): A telecommunications system as claimed in claim 23, ~~characterised in that~~ wherein said telecommunications system is an internet.

Claim 25 (Currently Amended): A router for use with a telecommunications system, as claimed in claim 23, ~~characterised in that~~ wherein said router employs the method of active queue management.